

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

- 1 1. (Currently amended): A computer-implemented method of searching
2 unstructured data stored in a database, the method comprising:
3 storing, using one or more computer systems, a plurality of electronic records in a
4 common repository of electronic records in the database that provides an audit trail that cannot
5 be altered or disabled by users associated with the database, wherein each electronic record
6 comprises unstructured data stored in the form of an XML document in a character large-object
7 (CLOB) format in a column of a table of the database;
8 generating, using the one or more computer systems, a first graphical user
9 interface and displaying the first graphical user interface on a display device, the first graphical
10 user interface configured to enable users to identify one or more references to sections of
11 unstructured data within the plurality of electronic records stored in the database as elements of
12 security rules, wherein the one or more identified references to sections of unstructured data
13 within the plurality of electronic records comprises XML elements specifying sections in XML
14 documents;
15 receiving, at at least one of the one or more computer systems, information from a
16 user via the first graphical user interface identifying a reference to a section of unstructured data
17 within an electronic record as an element of one or more security rules, wherein the reference to
18 a section of unstructured data within an electronic record comprises an XML element defining
19 the section in the XML document of the electronic record;
20 generating, using the one or more computer systems, the one or more security
21 rules in response to the information from the user identifying the reference to a section of
22 unstructured data within the electronic record as an element of the one or more security rules

23 such that the one or more security rules pertain to the XML element defining the section in the
24 XML document of the electronic record;

25 creating, using the one or more computer systems, a security protocol that protects
26 the plurality of electronic records stored in the database against unauthorized access based on the
27 one or more security rules;

28 creating, using the one or more computer systems, a query designed to identify a
29 set of electronic records stored in the database that meet criteria designated in the query;

30 prior to executing the query, modifying the query using the one or more computer
31 systems in accordance with the security protocol to create a modified query that includes the
32 XML element defining the reference to a section of unstructured data within in the XML
33 document of the electronic document identified by the user as an element of the one or more
34 security rules; and

35 running, using the one or more computer systems, the modified query against the
36 unstructured data of the plurality of electronic records stored in the database.

1 2. (Currently amended): The method of claim 1 further comprising:
2 generating, using the one or more computer systems, a second graphical user
3 interface and displaying the second graphical user interface on the display device, the second
4 graphical user interface configured to enable users to identify one or more references to sections
5 of unstructured data within the plurality of electronic records stored in the database as elements
6 of an intermediate index that indirectly indexes into one or more of the sections of unstructured
7 data within the plurality of electronic records;

8 receiving, at at least one of the one or more computer systems, information from a
9 user via the second graphical user interface identifying one or more references to sections of
10 unstructured data of the electronic record as indexed elements of the intermediate index; and
11 generating, using the one or more computer systems, the one or more security
12 rules based on the indexed elements of the intermediate index.

1 3. (Previously Presented): The method of claim 1 wherein access to electronic
2 records in the common repository is automatically granted unless the security protocol restricts
3 such access; and

4 wherein the security protocol comprises a plurality of security rules that restrict
5 access to the electronic records within the database based on content of one or more sections of
6 unstructured data within the electronic records whose corresponding references are identified as
7 elements of the plurality of security rules.

1 4. (Previously Presented): The method of claim 1 wherein access to electronic
2 records in the common repository is automatically denied unless the security protocol grants
3 such access; and

4 wherein the security protocol comprises a plurality of security rules that grant
5 access to the electronic record within the database based on content of one or more sections of
6 unstructured data within the electronic records whose corresponding references are identified as
7 elements of the plurality of security rules.

1 5. (Previously Presented): The method of claim 1 wherein the plurality of
2 electronic records are generated from multiple data sources prior to committing a database
3 transaction to the database and in response to intercepting data from the non-committed database
4 transaction.

1 6. (Previously Presented): The method of claim 5 wherein one or more fields of
2 an electronic record in the plurality of electronic records are filled with XML data based on a
3 predefined mapping of the fields to the multiple data sources.

7. (Canceled)

1 8. (Previously Presented): The method of claim 1 wherein the unstructured data
2 comprises well-formed XML documents stored within the column of the table stored in the
3 database.

1 9. (Original): The method of claim 1 further comprising allowing a user to
2 enable and disable the security protocol.

1 10. (Currently amended): A computer system for searching unstructured data
2 stored in a database, the computer system comprising:

3 a processor;

4 a database; and

5 a computer-readable memory coupled to the processor, the computer-readable
6 memory configured to store a computer program;

7 wherein the processor is operative with the computer program to:

8 store a plurality of electronic records in a common repository of electronic
9 records in the database that provides an audit trail that cannot be altered or disabled by
10 users associated with the database, wherein each electronic record comprises unstructured
11 data stored in the form of an XML document in a character large-object (CLOB) format
12 in a column of a table of the database;

13 generate a first graphical user interface and displaying the first graphical
14 user interface on a display device, the first graphical user interface configured to enable a
15 user to identify one or more reference to sections of unstructured data within the plurality
16 of electronic records stored in the database as elements of security rules, wherein the one
17 or more identified references to sections of unstructured data within the plurality of
18 electronic records comprises XML elements specifying sections in XML documents;

19 receive information from a user via the first graphical user interface
20 identifying a reference to a section of unstructured data within an electronic record as an
21 element of one or more security rules, wherein the reference to a section of unstructured
22 data within an electronic record comprises an XML element defining the section in the
23 XML document of the electronic record;

24 generate one or more security rules in response to the information from the
25 user identifying the reference to a section of unstructured data within the electronic
26 record as an element of the one or more security rules such that the one or more security

27 rules pertain to the XML element defining the section in the XML document of the
28 electronic record;
29 create a security protocol that protects the plurality of electronic records
30 stored in the database against unauthorized access to the unstructured data within each
31 electronic record based on the one or more security rules;
32 create a query designed to identify a set of electronic records stored in the
33 database that meet criteria designated in the query;
34 modify the query in accordance with the security protocol to create a
35 modified query prior to executing the query that includes the XML element defining the
36 ~~reference to a section of unstructured data within~~ in the XML document of the electronic
37 document identified by the user as an element of the one or more security rules; and
38 run the modified query against the unstructured data of the plurality of
39 electronic records stored in the database.

1 11. (Previously Presented): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:

3 generate a second graphical user interface and displaying the second graphical
4 user interface on the display device, the second graphical user interface configured to enable a
5 user to identify one or more references to sections of unstructured data within the plurality of
6 electronic records stored in the database as elements of an intermediate index that indirectly
7 indexes into one or more of the sections of unstructured data within the plurality of electronic
8 records;

9 receive information from a user via the second graphical user interface identifying
10 one or more references to sections of unstructured data of the electronic record as indexed
11 elements of the intermediate index; and

12 generate the one or more security rules based on the indexed elements of the
13 intermediate index.

1 12. (Previously Presented): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:

3 automatically grant access to electronic records in the database unless the security
4 protocol restricts such access; and

5 wherein the security protocol comprises a plurality of security rules that restrict
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 13. (Previously Presented): The computer system of claim 10 wherein the
2 processor is further operative with the computer program to:

3 automatically deny access to electronic records in the database unless the security
4 protocol grants such access; and

5 wherein the security protocol comprises a plurality of security rules that grant
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 14. (Previously Presented): The computer system of claim 10 wherein the
2 plurality of electronic records are generated from multiple data sources prior to committing a
3 database transaction to the database and in response to intercepting data from the non-committed
4 database transaction.

1 15. (Previously Presented): The computer system of claim 14 wherein one or
2 more fields of an electronic record in the plurality of electronic records are filled with XML data
3 based on a predefined mapping of the fields to the multiple data sources.

16. (Canceled)

1 17. (Previously Presented): The computer system of claim 10 wherein the
2 unstructured data comprises well-formed XML documents stored within the column of the table
3 stored in the database.

1 18. (Currently amended): A computer program product having a computer-
2 readable storage medium storing a set of code modules which when executed by a processor of a
3 computer system cause the processor to search unstructured data stored in a database, the
4 computer program product comprising:

5 code for storing a plurality of electronic records in a common repository of
6 electronic records in the database that provides an audit trail that cannot be altered or disabled by
7 users associated with the database, wherein each electronic record comprises unstructured data
8 stored in the form of an XML document in a character large-object (CLOB) format in a column
9 of a table of the database;

10 code for generating a first graphical user interface and displaying the first
11 graphical user interface on a display device, the first graphical user interface configured to
12 enable a user to identify one or more reference to sections of unstructured data within the
13 plurality of electronic records stored in the database as elements of security rules, wherein the
14 one or more identified references to sections of unstructured data within the plurality of
15 electronic records comprises XML elements specifying sections in XML documents;

16 code for receiving information from a user via the first graphical user interface
17 identifying a reference to a section of unstructured data within an electronic record as an element
18 of one or more security rules, wherein the reference to a section of unstructured data within an
19 electronic record comprises an XML element defining the section in the XML document of the
20 electronic record;

21 code for generating the one or more security rules in response to the information
22 from the user identifying the reference to a section of unstructured data within the electronic
23 record as an element of the one or more security rules such that the one or more security rules
24 pertain to the XML element defining the section in the XML document of the electronic record;

25 code for creating a security protocol that protects the plurality of electronic
26 records stored in the database against unauthorized access based on the one or more security
27 rules;

28 code for creating a query designed to identify a set of electronic records stored in
29 the database that meet criteria designated in the query;

30 code for modifying the query in accordance with the security protocol to create a
31 modified query prior to executing the query, the modified query including the XML element
32 defining the reference to a section of unstructured data within in the XML document of the
33 electronic document identified by the user as an element of the one or more security rules; and
34 code for running the modified query against the unstructured data of the plurality
35 of electronic records stored in the database.

1 19. (Previously Presented): The computer program product of claim 18 further
2 comprising:

3 code for generating a second graphical user interface and displaying the second
4 graphical user interface on the display device, the second graphical user interface configured to
5 enable a user to identify one or more references to sections of unstructured data within the
6 plurality of electronic records stored in the database as elements of an intermediate index that
7 indirectly indexes into one or more of the sections of unstructured data within the plurality of
8 electronic records;

9 code for receiving information from a user via the second graphical user interface
10 identifying one or more references to sections of unstructured data of the electronic record as
11 indexed elements of the intermediate index; and

12 code for generating the one or more security rules based on the indexed elements
13 of the intermediate index.

1 20. (Previously Presented): The computer program product of claim 18 further
2 comprising:

3 code for automatically granting access to electronic records in the database unless
4 the security protocol restricts such access;

5 wherein the security protocol comprises a plurality of security rules that restrict
6 access to the electronic records within the database based on content of one or more sections of

7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 21. (Previously Presented): The computer program product of claim 18 further
2 comprising:

3 code for automatically denying access to electronic records in the database unless
4 the security protocol grants such access;

5 wherein the security protocol comprises a plurality of security rules that grant
6 access to the electronic records within the database based on content of one or more sections of
7 unstructured data within the electronic records whose corresponding references are identified as
8 elements of the plurality of security rules.

1 22. (Previously Presented): The computer program product of claim 18 wherein
2 the plurality of electronic records are generated from multiple data sources prior to committing a
3 database transaction to the database and in response to intercepting data from the non-committed
4 database transaction.

1 23. (Previously Presented): The computer program product of claim 18 wherein
2 one or more fields of an electronic record in the plurality of electronic records are filled with
3 XML data based on a predefined mapping of the fields to multiple data sources.

24. (Canceled)

1 25. (Previously Presented): The computer program product of claim 18 wherein
2 the unstructured data comprises well-formed XML documents stored within the column of the
3 table stored in the database.

1 26. (Previously Presented): A method for searching electronic records stored in a
2 common repository in a database that provides an audit trail that cannot be altered or disabled by
3 users associated with the database, wherein each electronic record comprises a well-formed

4 XML document stored in a character large-object (CLOB) format in a column of a table of the
5 database, the method comprising:

6 displaying a first graphical user interface on a display device, the first graphical
7 user interface configured to enable users to designate XML tags within XML documents
8 associated with the plurality of electronic records stored in the database for use as secure
9 elements of security rules;

10 receiving input via the first graphical user interface identifying an XML tag
11 within an XML document associated with a first electronic record as a secure element;

12 displaying a second graphical user interface on the display device, the second
13 graphical user interface configured to enable users to associate XML tags designated for use as
14 secure elements with events;

15 receiving input via the second graphical user interface associating the XML tag
16 within the XML document with a first event;

17 displaying a third graphical user interface on the display device, the third
18 graphical user interface configured to enable users to create security rules for events;

19 receiving input via the third graphical user interface creating a security rule
20 identifying the first event and having the XML tag as a secure element;

21 generating a security protocol based on the security rule, the security protocol
22 protecting access to the first electronic record based on content within the XML document that
23 corresponds to the XML tag designated as a secure element of the security rule;

24 receiving a query designed to identify a set of electronic records from the
25 electronic records stored in the database that satisfy criteria designated in the query;

26 prior to executing the query, modifying the query in accordance with the security
27 protocol to create a modified query that includes the XML tag from the security rule; and

28 generating information indicative of executing the modified query against the
29 electronic records stored in the database.